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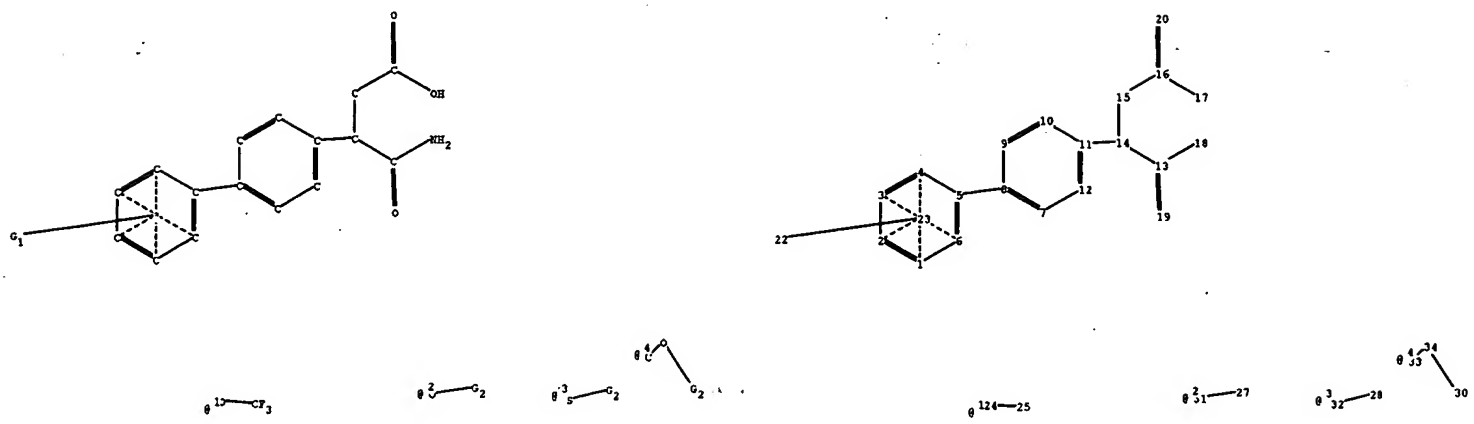

chain nodes :
13 14 15 16 17 18 19 20 22 24 25 27 28 30 31 32 33 34
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
5-8 11-14 13-14 13-18 13-19 14-15 15-16 16-17 16-20 24-25 27-31 28-32 30-34 33-34
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds :
13-18 13-19 27-31 28-32 30-34 33-34
exact bonds :
5-8 11-14 13-14 14-15 15-16 24-25
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 16-17 16-20

G1:H,X,CN,NO2,[*1],[*2],[*3],[*4]

G2:H,Ak

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 22:CLASS 23:Atom 24:CLASS

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lwl 3/22/07

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=>
Uploading C:\Program Files\Stnexp\Queries\2007 cases\10569812\Formula(Ia) cl5.str

L1      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.


=> s l1 sss sam
SAMPLE SEARCH INITIATED 19:00:08 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -       17 TO ITERATE

100.0% PROCESSED       17 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:           93 TO      587
PROJECTED ANSWERS:               0 TO        0

L2            0 SEA SSS SAM L1

=> s l1 sss ful
FULL SEARCH INITIATED 19:00:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      354 TO ITERATE

100.0% PROCESSED      354 ITERATIONS                               6 ANSWERS
SEARCH TIME: 00.00.01

L3            6 SEA SSS FUL L1

=> d scan

L3   6 ANSWERS   REGISTRY   COPYRIGHT 2007 ACS on STN
IN   [1,1'-Biphenyl]-4-propanoic acid, 3'-acetyl-β-(aminocarbonyl)- (9CI)
MF   C18 H17 N O4
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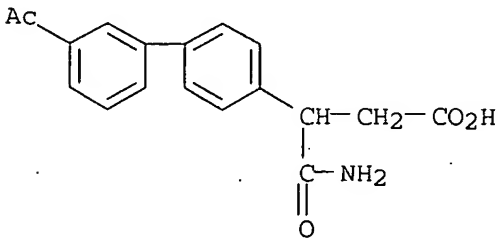


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**
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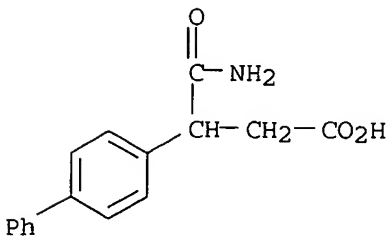
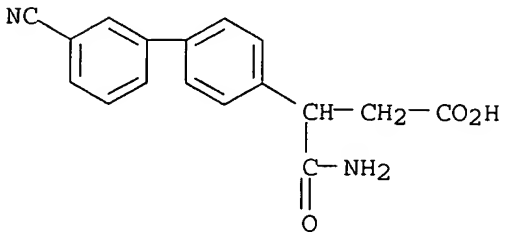
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):6

L3 6 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN [1,1'-Biphenyl]-4-propanoic acid, β-(aminocarbonyl)- (9CI)
MF C16 H15 N O3



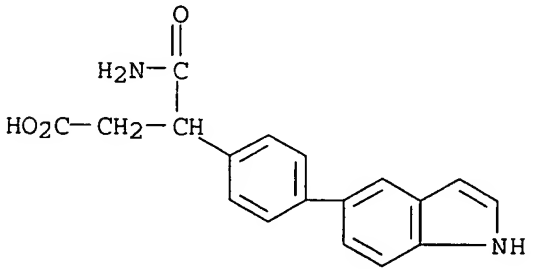
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 6 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN [1,1'-Biphenyl]-4-propanoic acid, β-(aminocarbonyl)-3'-cyano- (9CI)
MF C17 H14 N2 O3



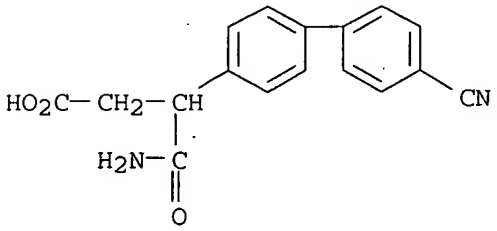
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 6 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN Benzenepropanoic acid, β-(aminocarbonyl)-4-(1H-indol-5-yl)- (9CI)
MF C18 H16 N2 O3



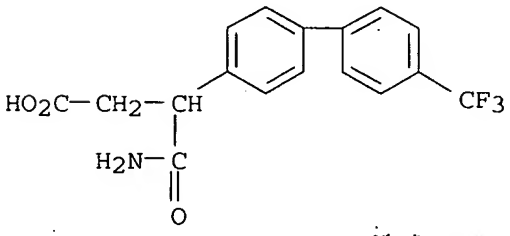
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 6 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN [1,1'-Biphenyl]-4-propanoic acid, β-(aminocarbonyl)-4'-cyano- (9CI)
MF C17 H14 N2 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 6 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN [1,1'-Biphenyl]-4-propanoic acid, β-(aminocarbonyl)-4'-(trifluoromethyl)- (9CI)
MF C17 H14 F3 N O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=>

=> fil hcap

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	172.76

FILE 'HCAPLUS' ENTERED AT 19:00:52 ON 22 MAR 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 22 Mar 2007 VOL 146 ISS 13
FILE LAST UPDATED: 21 Mar 2007 (20070321/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 18:59:11 ON 22 MAR 2007)

FILE 'REGISTRY' ENTERED AT 18:59:32 ON 22 MAR 2007
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L2 0 S L1 SSS SAM
L3 6 S L1 SSS FUL

FILE 'HCAPLUS' ENTERED AT 19:00:52 ON 22 MAR 2007

=> s l3
L4 1 L3

=> d l4 ibib abs

L4 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:158625 HCAPLUS
DOCUMENT NUMBER: 142:261292
TITLE: Preparation of (hetero)aryl-substituted succinate derivatives as matrix metalloproteinase inhibitors
INVENTOR(S): Holmes, Ian; Watson, Stephen Paul
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005016868	A2	20050224	WO 2004-EP9087	20040812
WO 2005016868	A3	20050519		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,

LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1654218	A2	20060510	EP 2004-764084	20040812
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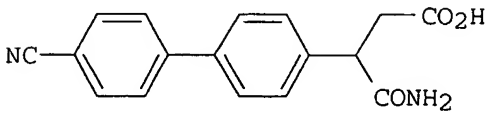
JP 2007502259	T	20070208	JP 2006-522996	20040812
US 2006235074	A1	20061019	US 2006-569812	20060210
PRIORITY APPLN. INFO.:			GB 2003-19069 A	20030814
			WO 2004-EP9087 W	20040812

OTHER SOURCE(S): CASREACT 142:261292; MARPAT 142:261292

GI



II

AB Title compds. represented by the formula I, R1ZQCH(R2)CH2X, [wherein R1 = (un)substituted alkyl(cycloalkyl), alkylheterocycloalkyl, alkylaryl, etc.; Z = a bond, CH2, O, S, etc.; Q = (un)substituted (hetero)aryl; X = COR3; R2 = CONH2, CO2H, sulfonylamino, etc.; R3 = OH, oxyalkyl or (un)substituted amino; with a proviso; and physiol. functional derivs. thereof] were prepared as matrix metalloproteinase (MMP) inhibitors. Coupling reaction of 4-amino-3-(4-bromophenyl)-4-oxobutanoic acid with p-nitrilephenylboronic acid gave II in 100% yield. I showed inhibition of MMP-12 with IC50 values of below 100 μM. Thus, I and their pharmaceutical compns. are useful as matrix metalloproteinase inhibitors for the treatment of inflammation or autoimmune disease (no data).

kwe 3/23/07

845786-10-9P 845786-11-0P 845786-12-1P 845786-13-2P 845786-14-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (hetero)aryl-substituted succinate derivs. as matrix metalloproteinase inhibitors)

ALL ANSWERS HAVE BEEN SCANNED

=> d his

(FILE 'HOME' ENTERED AT 18:59:11 ON 22 MAR 2007)

FILE 'REGISTRY' ENTERED AT 18:59:32 ON 22 MAR 2007
L1 STRUCTURE UPLOADED
L2 0 S L1 SSS SAM
L3 6 S L1 SSS FUL

FILE 'HCAPLUS' ENTERED AT 19:00:52 ON 22 MAR 2007
L4 1 S L3

FILE 'HCAPLUS' ENTERED AT 19:04:22 ON 22 MAR 2007
E US20060235074/PN,PRN,AN
L5 1 S E3

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	5.20	196.39

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.78

 searched 3/23/07 3/23/07

10/569812MMP Inhibitors PGPUb search

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E6            1     US2006235075/PN
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E8            1     US2006235077/PN
E9            2     US2006235078/PN
E10           1     US2006235079/PN
E11           1     US2006235080/PN
E12           1     US2006235081/PN

=> s e3
L5            1 US2006235074/PN

=> d scan

L5    1 ANSWERS   HCAPLUS  COPYRIGHT 2007 ACS on STN
IC    ICM  C07C235-00
CC    25-2 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
      Section cross-reference(s): 1, 63
TI    Preparation of (hetero)aryl-substituted succinate derivatives as matrix
      metalloproteinase inhibitors
ST    hetero aryl butanoic acid prepn MMP inhibitor antiinflammation
      immunomodulator
IT    Anti-inflammatory agents
      Autoimmune disease
      Drug delivery systems
      Human
      Immunomodulators
      Inflammation
         (preparation of (hetero)aryl-substituted succinate derivs. as matrix
         metalloproteinase inhibitors)
IT    845786-15-4P   845786-16-5P   845786-17-6P   845786-18-7P   845786-19-8P
      845786-20-1P   845786-21-2P   845786-22-3P   845786-23-4P   845786-24-5P
      845786-25-6P   845786-26-7P   845786-27-8P
      RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
      (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
      (Uses)
         (preparation of (hetero)aryl-substituted succinate derivs. as matrix
         metalloproteinase inhibitors)
IT    107-82-4, 1-Bromo-3-methylbutane   156-38-7, p-Hydroxyphenylacetic acid
      1647-26-3, 2-Cyclohexylethyl bromide   1878-68-8, 4-Bromophenylacetic acid
      5292-43-3, tert-Butyl bromoacetate   5437-45-6, Benzyl 2-bromoacetate
      14199-15-6, Methyl 2-(4-hydroxyphenyl)acetate   18162-48-6,
      tert-Butyldimethylsilyl chloride   27727-37-3, Benzyl 2-(4-
      hydroxyphenyl)acetate   98946-18-0   126747-14-6
      RL: RCT (Reactant); RACT (Reactant or reagent)
         (preparation of (hetero)aryl-substituted succinate derivs. as matrix
         metalloproteinase inhibitors)
IT    33155-58-7P, tert-Butyl 2-(4-bromophenyl)acetate   55784-09-3P,
      [4-(Isopentyloxy)phenyl]acetic acid   127152-98-1P, Benzyl
      2-(4-bromophenyl)acetate   335200-36-7P   845785-97-9P   845785-98-0P
      845785-99-1P   845786-00-7P   845786-01-8P   845786-02-9P   845786-03-0P
      845786-04-1P   845786-06-3P   845786-07-4P   845786-08-5P   845786-09-6P
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Reg Nos.

10/569812MMP Inhibitors REG NO. search

=> s 335200-36-7/rn or 845785-97-9/rn or 845785-98-0/rn or 845785-99-1/rn or 845786-00-7/rn or 845786-01-8/rn or 845786-02-9/rn or 845786-03-0/rn or 845786-04-1/rn

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             1 845786-03-0/RN
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              RN OR 845786-03-0/RN OR 845786-04-1/RN
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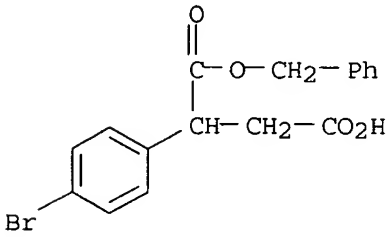
=> d scan

L1 9 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN Butanedioic acid, (4-bromophenyl)-, 1-(phenylmethyl) ester (9CI)
MF C17 H15 Br O4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):9

L1 9 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN
IN Butanedioic acid, (4-bromophenyl)-, 1-(1,1-dimethylethyl) 4-(phenylmethyl) ester (9CI)
MF C21 H23 Br O4